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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,727	07/17/2003	Richard P. Wool	UOD-210US	1581
66469	7590	12/15/2008	EXAMINER	
RATNERPRESTIA			CHEUNG, WILLIAM K	
P.O. BOX 1596			ART UNIT	
WILMINGTON, DE 19899			PAPER NUMBER	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/621,727

**Applicant(s)**

WOOL ET AL.

**Examiner**

WILLIAM K. CHEUNG

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 11-14, 17-21 and 23-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 11-14, 17-21 and 23-29 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The examiner acknowledges the receipt of the amendment filed September 16, 2008. Claims 1-4, 11-14, 17-21, 23-29 are pending.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-4, 11-14, 17-21, 23-29 are rejected under 35 U.S.C. 103(a) as obvious over Wool et al. (US 6,121,398), in view of Frederick (US 2,821,456).

1. (Currently Amended) A low dielectric constant material prepared by curing a mixture comprising  
(a) a plant oil with an unsaturation,  
(b) a comonomer, and  
(c) feather fiber mats comprising feather fibers having an average diameter of 6  $\mu$ m and length of 8 mm,  
wherein said feather fiber mats are present in an amount of at least 10% by weight in the material.

26. (Currently Amended) A process to make a low dielectric constant material comprising mixing  
a plant oil with an unsaturation,  
a comonomer, and  
feather fiber mats, present in an amount of at least 10% by weight in the material, said mats comprising feather fibers having an average diameter of 6  $\mu$ m and length of 8 mm; and subsequently curing the resulting mixture.

The amendment "an average diameter of 6 microns and length of 8 mm" is supported by the chicken feathers by applicants' specification (page 9, 00035). However, the specification fails to provide a description of what is considered a "mat" or "mats".

**mat**

**NOUN:**

1. A flat piece of coarse fabric or other material used for wiping one's shoes or feet,

or in various other forms as a floor covering.

2. A small flat piece of decorated material placed under a lamp, dish of food, or other object.
3. Sports A floor pad to protect athletes, as in wrestling or gymnastics.
4. A densely woven or thickly tangled mass: a mat of hair.
5. The solid part of a lace design.
6. A heavy woven net of rope or wire cable placed over a blasting site to keep debris from scattering.

Wool et al. (col. 21-22, claims 1, 3, 18) disclose a resin system comprising styrene (col. 21, claim 1), soy bean oil (col. 21, claim 3), and bird feathers (col. 22, claim 18). Wool et al. (Figure 1B; col. 2, line 41-49) clearly disclose that the soy bean oil employed is an acrylated epoxidized triglyceride soy bean oil. Although Wool et al. are silent that the disclosed bird feathers are feather mats, in view of that feathers inherently possess barbules that are organized and are easily stacked together into interlocking (or woven) form, the examiner has a reasonable basis that the claimed "feather mats" feature is inherently possessed in Wool et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

In view of the substantially identical composition of Wool et al. and the composition as claimed, the examiner has a reasonable basis that the claimed, dielectric constant of claim 11 is inherently possessed in Wool et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted

to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Regarding the recitation "subsequently curing the resulting mixture", Wool et al. (abstract) clearly disclose that the liquid molding resins derived are suitable for RIM, TRM, VARTM, SCRIMP, BMC, and SMC molding material applications where the resins must be cured in order to form their final molded products. Therefore, the claimed "subsequently curing the resulting mixture" is inherently possessed in Wool et al.

Regarding the claimed amount of feather mat (claims 26-29), claims 17-18 of Wool et al. (col. 22) generically encompasses the amount as claimed. Applicants must recognize that the recitation "reinforcing" of the claim 17 of Wool et al. (col. 22) means that the feather is in a substantial amount. Applicants must also recognize that both the applicants' specification (page 3, 0008) and Wool et al. (abstract) clearly disclose substantially identical liquid molding resin end uses, such as RIM, TRM, VARTM, SCRIMP, BMC, and SMC molding material applications

The difference between the invention as claimed and Wool et al. is that Wool et al. do not specifically indicate the dimensional requirement of "an average diameter of 6 microns and length of 8 mm" for the feathers as claimed.

However, applicants must recognize that Wool et al. (col. 21-22, claims 1, 3, 18) clearly disclose a resin system comprising bird feathers (col. 22, claim 18), which generically chicken feathers which includes the dimensions requirement as claimed. Applicants must recognize that all feathers inherently possess a length and a diameter. Motivated by the expectation of success of producing the polymer composites of Wool

et al., it would have been obvious to one of ordinary skill in art to use the readily available feathers (Frederick, US 2,821,456, col. 1, line 25-30), such as chicken feathers (readily available from chicken farms) as taught in Frederick, which inherently possess the dimensions as claimed to obtain the invention of claims 1-4, 11-14, 17-21, 23-29.

civilian demands. Therefore research has turned to 25 :  
chicken feathers (which chemically are similar to duck :  
and goose feathers) as probably the least expensive and :  
most readily available raw product capable of being proc- :  
essed to become a satisfactory filler. Some of the re- 26 :

Applicant's arguments filed September 16, 2008 have been fully considered but they are not persuasive.

Applicants argue the prior art does not disclose the dimensions of the feather features as claimed. However, in view of the readily available of chicken feathers as compared to other feathers, it would have been obvious to one of ordinary skill in art to use the readily available feathers, such as chicken feathers (readily available from chicken farms) as taught in Frederick, which inherently possess the dimensions as claimed to obtain the invention of claims 1-4, 11-14, 17-21, 23-29.

### **Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William K Cheung/  
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.  
Primary Examiner  
December 7, 2008